Exhibit I

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HEADLINE: 'Yes, We're A Printing Show,' Declares Seybold As Print TechnologiesMark San Francisco Event

THIS IS THE FULL TEXT

BODY:

Staff Report

(Contributors to this story included Les Cowan, David E. Griffith, Noel Jeffrey, Joe LiPetri, and Richard Romano, Micro Publishing Press/Cygnus Graphics Network; and Patrick Henry.)

Quelling complaints about its unpopular detour to New York City this year and its alleged loss of importance as a printing event, the Seybold Seminars publishing conference rebounded strongly in San Francisco earlier this month with a program full of revelations for everyone in the business of putting ink or toner onto printable surfaces of whatever kind.

Seybold Seminars San Francisco/Publishing '98, which ran from Aug. 31 to Sept. 4 at the Moscone Convention Center, was a multi-tracked conference and exposition offering glimpses into the near future of publishing both in print and on line. Those on the print side of the proposition gained numerous insights into how PDF (portable document format) workflows and other front-end technologies have all but severedprint production's ties to its analog roots. Attendees also toured the gamut of digital color output options from 8 1/2 x 11" sheets to panels that are 6 feet wide and long enough to wrap a city bus.

For dramatic diversion there as the sneak preview of 'K2,' Adobe Systems Inc.'s rumored 'Quark killer' application, followed by an 'emergency session' on the credibility of Quark Inc.'s startling offer to acquireAdobe the week before the conference opened. Steve Ballmer, the new president of Microsoft Corp., made his first major address in that capacity, while Apple Computer's interim CEO Steve Jobs - host of the K2 teaser - roused the Seybold faithful with foretastes of OS 8.5 and X, the coming updates to the Mac operating system.

Heard It There First

Also serving to remind the print publishing community that Seyboldstill breaks big news were show-floor announcements like these: The first licensing of Pantone Inc.'s Hexachrome HiFi color technology toa wideformat digital output device, the Hi-Fi Jet from Roland Digital Group; Xante Corp.'s introduction of a $ 7,000 desktop solution for generating four-color separation films with what the manufacturer calls near-imagesetter quality; Portalis Ltd.'s PressPort, a front end that works like a super-photocopier, sending off-the-glass page imagesdirect to digital presses for output on demand; New versions of Xerox's DocuColor 40 digital document printer, including one that offers purchasers a choice of front ends from four competing RIP vendors.

Cygnus Publishing, publisher of Printing News, Quick Printing, and Modern Reprographics, made news in its own right at Seybold San Franciscoby announcing its acquisition of Micro Publishing Press. Based in Torrance, Calif., the nine-year-old publishing house produces Micro Publishing News in four regional editions, as well as other journals forprofessional end-users of digital imaging and printing technologies.It also publishes the daily newspapers for the twice-yearly Seybold conferences, including the East Coast event (which will return to itsoriginal site at the Charles J. Hynes Convention Center in Boston next March).

In his first major address as the new president of Microsoft, Steve Ballmer told Seybold attendees that his company was fully committed to serving the needs of publishers.

Where It All Comes Together

On the output side, several vendors of digital printing equipmentmade major announcements at the Seybold event or demonstrated equipment for the first time on the West Coast.

Xerox announced a new addition to its DocuColor line, the DocuColor 40 CP color copier/printer. The new system, which costs about 25 percent less than last year's DocuColor 40, is designed for in-house corporate environments that generate an average of 12,000 to 13,000 pages per month. The DocuColor 40CP is said to print five times faster than competitive equipment to meet the increasing demand for color documents, such as proposals, presentations, and reports. It comes bundled with a Xerox controller OEMed from EFI.

Xerox has reclassified existing DocuColor 40s in production environments as 'Pro' models and will equip this version of the printer with a choice of RIPs from EFI, Colorbus, Splash, and Scitex.Other members of the DocuColor family include the DocuColor Office 6, the DocuColor 5750, the DocuColor 5799, and the DocuColor 70.

T/R Systems also demonstrated two important new systems: the PrintStation 040, and a 'wide clustering' configuration made possible by T/R's newsupport of the Hewlett-Packard Design Jet 2000CP wide-format printer. Both new systems are targeted to production scenarios, with the 040aimed at the black-and-white high-speed market and the HP grouping intended to position wide-format thermal inkjet as a production option.

The PrintStation 040 is a laser printer based on a Fujitsu Ltd. 40-page per minute (ppm), 600-dpi printer. It can be clustered with up to seven other PrintStation 040s on a single MicroPress. T/R rates this configuration as capable of up to 320 ppm or 2,400,000 pages per month.

The HP DesignJet is a 36"-wide, 600dpi thermal inkjet introducedlast year. It is the first wide-format printing device integrated and certified for clustering with the MicroPress, and up to eight of these machines can run from a single server. With this full configuration, output capacity is quoted as more than 660 square feet per hour.

Determined to have its share of the limelight, Heidelberg set up two separate 'shops' running alternate demonstrations throughout the show. One concentrated on direct-imaging workflow with printed output from the QM-DI. The other detailed a CTP workflow culminating in imagingon the Heidelberg/Creo 3240 Trendsetter platesetter. The better to show where 'PDF meets the press,' files input as PDFs were prepared onthe DaVinci workstation for the QM-DI. The CTP demo used the Delta server to image eight-up plates.

In coming to Seybold, Xeikon brought the DCP 50 D, the 20' model of its digital press, west of the Rockiesfor the first time. Demonstrations emphasized variable-data printingwith workstations set up for one-to-one operation via Private Eye, Xeikon's personalization software.

4C Film from Your Desktop

Not all of the hot news about output was made at the high end. Xante Corp. of Mobile, Ala., came to San Francisco to announce the ability to produce high-quality, four-color film separations using its Accel-a-Writer 3G or PlateMaker 3 desktop output devices. High resolution and line screens, combined with the simplified film processing capabilities of Xante's FilmStar 2, were said to provide an easy and inexpensive ($ 7,000) alternative to four-color output requiring traditional imagesetters and film processors. The solution is aimed at service bureaus, in-plant printers, commercial printers, and other prepress installations that want to achieve what Xante described as 'near imagesetter quality film positives or negatives,' without making the investment in high-end imaging equipment.

The Accel-a-Writer 3G and the PlateMaker 3 both offer up to 2,400x2,400 dpi, achieving line screens of up to 175lpi. The four-color film capability comes from a combination of Xante technologies for dimensional accuracy, resolution enhancement, halftone and grayscale calibration, and enhanced imaging without the 'plugging' that occurs when printing negative images on typical laser printers. Users can produce both negative and positive images from the same device at equal quality, according to Xante.

Other features of the Accel-a-Writer 3G and PlateMaker 3 include Adobe PostScript 3, oversized printing up to 13" x 35.5", and densitometer support.

The FilmStar 2 desktop film processor eliminates camera and darkroom procedures for processing film. Users insert film output into the FilmStar 2 and a reagent increases the density of the toner, optimizing it for printing applications.

'Off the Glass' to Digital Press

Perhaps the most tantalizing technology to be announced - but not shown - at SeyboldSan Francisco was the PressPort, a novel front-end system for digital presses. It is the brainchild of Portalis Ltd., a two-year-old Israeli company represented in the U.S. by Gary Dolgins. He characterizedthe PressPort as a means to simplify the inclusion of hard-copy originals in digital printing workflows.

Although the PressPort can operate both as a networked press controller and as as a walk-up, 'off-the-glass' document scanning station, the latter function will be its key contribution to accelerating the digital printing process, according to Mr. Dolgins. He said that users will be able to place color originals up to 11x17" inches on the PressPort's platen and, with touchscreen commands, convert them to a proprietary document format supported by Xeikon, Indigo, and Heidelberg QM-DI digital presses. The format, which sends what Mr. Dolgins called a 'rich bitmap'

of the originalto the press, also incorporates an OCR scanning capability that permits text editing and, said Mr. Dolgins, fully accurate reproduction of the page (including replication of the fonts).

Other image-processing features include descreening and rescreening, color balance control, and multiple-up imposition with crop marks. Mr. Dolgins said that the PressPort can scan and process an 11x17' page in about three minutes at an optical resolution of 700 dpi or 1,400 dpi interpolated. Jobs can be stored on the device's 6GB hard drive or archived offline to Zip and Jaz media.

The PressPort, to be priced in the $ 60,000-$ 70,000 range with an additional, volume-based 'usage' charge, will ship with a driver specific to the enduser's digital press. Although only the three aforementioned machines are currently supported, Portalis's goal is to make the PressPort compatible with all comparable digital presses, Mr. Dolgins said. He added that the PressPort would be of particular interest to shops doing magazine reprints and other work suited to short-run digital printing.

According to Mr. Dolgins, the first PressPort in the U.S. is in place at a photo processing lab in Philadelphia. Another was to be installed at a digital printing firm in New York City the week after Seybold San Francisco. (A report on both installations will appear in Printing News.)

Variably Yours

A hot newsoftware category is variable-data, also referred to as 'personalization' or 'customization.' Such software, once the purview of expensive and complicated systems, is coming to the desktop, typically as XTensions for QuarkXPress. Most are designed to work in conjunction withdigital presses, and can accept input from delimited text files exported from a database program. The following were among vendors that presented new applications for variable data at this year's show.

DataBase Publishing Software showed a new version of its Catalog Genie software, which is used to produce customized catalogs. The new producthas a built-in database management system said to enable non-technical users to install and customize a database without any programming.

Varis Corp. featured a live demonstration of its VariScript, variable-data printing software on an Oce DemandStream 6060 printer. Personalized versions of 'Alice in Wonderland' and 'Robin Hood' were printed, with readers' names inserted in place of 'Alice' or 'Robin' throughout the entire stow. Repagination of text and graphics, based on the length of the names, book place in real time.

Vision's Edge showed Focus Gold 1.0, a suite of extensions for creating variable-data layouts in QuarkXPress. The product, which can use information from any database through tab-delimited ASCII files, supports variable printing of any element in a QuarkXPress layout, including boxes, graphics, lines, text, and blocks of text. Over 1,600 possible layouts can be triggered from one template.

What Color Is the Color?

New printing technologies require new schemes for ensuring color accuracy throughout a workflow. Several vendors are jumping into the color management fray and announcing new color profiling systems.

Apple Computer showed somefruits of its announcement at March's Seybold Seminars New York thatit would port ColorSync to Windows. In the Apple booth, several major software

developers displayed versions of their products that support ColorSync. ColorSync on the iMac also was featured.

Kodak showed ColorFlo ICC Profile Tools 2.0, which is software for making color profiles for digital cameras, scanners, monitors, and output devices. Italso lets users fine-tune color profiles to achieve the style of a particular shop or publication. A new feature in version 2.0 enables profiles to be built from scratch, using up to 928 color patches and aspectrophotometer.

Kodak also showed its ColorFlo Imaging Server Suite, server software that reportedly lets users create scripts that automatically apply various image processing functions to every file placed in designated folders. Functions include color correction based on ICC-compliant profiles as well as scaling, rotation, and filters.

Linocolor, part of Heidelberg Prepress, showcased its PrintOpen 3.0 color management software as part of the live QM-DI and Trendsetter demonstrations in the Heidelberg booth. The QM-DI demonstration traced a complete PDF-based workflow ending with output on the digital Quickmaster. The Trendsetter demonstration reconstructed a computer-to-plate workflow using the Creo device.

Electronics for Imaging (EFI) presented technology demonstrations of ColorWise 2.0. ColorWise is platform-independent, file format-independent, server-based software aimed at eliminating workflow complications by enabling full-color management control in the RIP, supporting matched color in the output of two different output devices. ColorWise is a component of EFI RIPs, whichare sold and priced by OEMs.

Pantone announced ColorReady, a new, 'three-in-one' software application that expands the color management capabilities of QuarkXPress, Illustrator, and FreeHand. ColorReady calibrates Pantone colors and custom colors from within the color workflow - allowing designers to see the colors before they print. Users simply select the intended devices in the workflow such as a monitor, acomping device, or final output, and then create a color palette. ColorReady automatically calibrates the palette colors and recalibratesthem, when devices are changed.

Radius introduced a new version of its PressView XL Color Reference Display System, which consists of monitor hardware, software, profiles, and a colorimeter. The PressView system is designed to provide soft proofing capability. New features of the upgraded system include an improved tube, a 118KHz bandwidth chassis, a higher-resolution .28 millimeter aperture grill pitch, a more accurate colorimeter, and four-corner purity adjustment, a brand-new feature permitting adjustment for local magnetic conditions to achieve consistent color everywhere on the screen.

Trumatch showed its Trumatch four-color matching system, which organizes process colors by hue, saturation, and brightness. For electronic printers, Trumatch exhibited Swatch-Printer Software for Windows and ColorPrinter Softwarefor Mac, which is ColorSync compatible. Both products print a hardcopy reference guide on the user's own output device, providing color predictability for comps and color-accurate presentations.

High, Wide,and Handsome

This year's Seybold San Francisco featured new announcements from some relatively new players in the large-format color output arena, while some veteran providers showed new products announced earlier this year.

The biggest news was Roland Digital Group's Hi-Fi Jet, a six-color inkjet built to print Hi-Fi color at 1440 dpi in 40"and 50" widths. Roland recently reached a licensing agreement to equip the Hi-Fi Jet with Pantone's Hexachrome six-color process, which adds orange and green to the CMYK ink set for enhanced color effects. Alternatively, the Hi-Fi Jet can add light cyan and light magenta forboth high-fidelity printing and digital proofing.

The Hi-Fi-Jet's MicroPiezo technology uses 64-nozzle printheads that automatically switch between normal and micro dot sizes depending on selected resolution. Standard features include the Roland ColorChoice Adobe PostScript 3 Chooser-level RIP driver and ICC color profiles for Roland's proprietary media and inks. The multiplatform RIP supports Windows 95/98/NTand Macintosh. The machines can reportedly operate with either dye- or pigment-based inks.

Roland Digital Group is also in the process ofpitching the new Hi-Fi Jet printer to the digital fine-art market and is negotiating with a fine-art printing systems integrator for distribution rights to the new machine.

Wasatch showed its PosterMaker Version 3.4 and SoftRIP Version 1.1, both software RIP products that enable six-color Hi-Fi printing on the Mimaki JV-2 (below). Although not licensed for Pantone's Hexachrome process, these products support the addition of orange and green for a wider gamut. They also have light cyan and light magenta options.

Encad showed its PRO 600e series devices running under the recently announced Fiery LX-W for Encad Color Server, a MIPs-based, plug-and-play, network-ready, true Adobe PostScript 3, wide-format RIP based on EFI's new LX architecture. Encad claims significant wide-format technology performance breakthroughs for this color server since it can RIP and print files simultaneously while driving the NovaJet PRO 600e and the NovaJet PROe at their full rated speeds. The Fiery LX-W incorporates EFI's NetWise technology, which Encad says allows it to offer its strongest networking solution ever.

Raster Graphics presented its DCS 5442 electrostatic wide-format production machine as well as its PiezoPrint 5000. Raster Graphics also presented a 'technology only' demonstration of the future PiezoPrint 6000, a machine designed to print with dye-based inks instead ofthe pigment-based formulas used in the 5000.

CalComp brought its piezoelectric Crystal Jets to Seybold. The company also introduced the Creation Station, a, new graphics tablet for artists and designers.

AnArt Form for Today

Taking direct aim at the fine-art market was the Giclee PrintMakerFA from ColorSpan. The 600-dpi device is based on the ColorSpan DesignWinder drum printer and has a print area of 35.5x47.25'. Just like the DesignWinder, the Giclee PrintMakerFA features aneight-color ink system, CMYK plus light and medium magenta,13 and light and medium cyan.

Sandra Crowley, ColorSpan's vice president of corporate communications, said the combination of the eight-color wide-gamut ink system and precise software RIP control of the print head gives prints that are produced on the Giclee PrintMakerFA a continuous-tone appearance equivalent to 1,800 dpi.

Another aspect of the Giclee PrintMakerFA that Crowley said would make the printer attractive tofine-art digital print shops is the manually adjustable head. 'The adjustable head lets you use

almost any substrate that you can wrap around the drum,' she noted. The suggested substrates include leather, art papers for watercolorists such as Arches, and canvas.

The Giclee PrintMakerFA is an aqueous thermal inkjet system that works with dye-and pigment-based inks. For archival fine-art prints, ColorSpan has produced a line of EnduraChrome pigment-based inks.

Mimaki's JV2-130,a six-color device that also offers a seventh spot color, was demonstrated at Seybold. Like the Roland Hi-Fi Jet, the 720-dpi Mimaki JV2-130 features the same MicroPiezo print head as the Epson 5000 proofer. Currently, the only spot color available is fluorescent pink, but Mimaki hopes to produce additional colors as demand warrants.

The print area of the JV2-130 is 52" wide. A Mimaki spokesperson said he expects the printer to be more popular with fine-art printers as the company develops more spot colors and additional substrates. Currently, the JV2-130 can print on such fine-art media as can-

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